

IN THE CLAIMS:

1. (Canceled)

2. (currently amended) A negative electrode for a rechargeable lithium battery which includes a conductive metal foil current collector and an active material layer provided on a surface of the current collector and comprising a binder and particles of active material containing silicon and/or a silicon alloy;

said negative electrode characterized in that said current collector has mechanical properties of at least 80 N/mm<sup>2</sup> tensile strength, at least 30 N/mm<sup>2</sup> proportional limit, at least 1.0 % elongation at break and at least 0.03 % elastic elongation limit and said binder has mechanical properties of at least 50 N/mm<sup>2</sup> tensile strength, at least 10 % elongation at break, at least 2.5 x 10<sup>-3</sup> J/mm<sup>3</sup> strain energy density and up to 10,000 N/mm<sup>2</sup> elastic modulus;

after provision of said active material layer on the surface of said current collector, heat treatment being carried out at a temperature higher than a glass transition temperature and lower than a decomposition temperature of said binder to improve adhesion of the binder to the current collector.

3. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said mechanical properties are imparted to the current collector by a thermal history of the sintering treatment.

4. (original) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said mechanical properties are imparted to said current collector by subjecting the current collector to a heat treatment before said active material layer is provided on the surface of the current collector.

5. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that a thickness  $X$  of said active material layer, a thickness  $Y$  and a surface roughness  $R_a$  of said current collector satisfy the relationships  $5Y > X$  and  $250R_a \geq X$ .

6. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said surface of the current collector that carries the

active material layer thereon has a surface roughness Ra of at least 0.2  $\mu\text{m}$ .

7. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said current collector comprises a copper foil, a copper alloy foil or a metal foil having a copper or copper alloy surface layer.

8. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said current collector comprises an electrolytic copper foil, an electrolytic copper alloy foil or a metal foil having an electrolytic copper or copper alloy surface layer.

9 - 12. (canceled)

13. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said binder has said mechanical properties after a thermal history of said heat treatment.

14. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said binder has a linear expansion coefficient of  $0.1 \times 10^{-5}$  -  $30 \times 10^{-5} \text{ }^{\circ}\text{C}^{-1}$ .

15. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said binder has a glass transition temperature of up to  $450 \text{ }^{\circ}\text{C}$ .

16. (canceled)

17. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said binder comprises polyimide.

18 - 19. (canceled)

20. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said active material particles have a mean particle diameter of up to  $10 \text{ }\mu\text{m}$ .

21. (previously presented) The negative electrode for a rechargeable lithium battery as recited in claim 2, characterized in that said active material layer includes a conductive powder.

22. (previously presented) A rechargeable lithium battery including the negative electrode as recited in claim 2, a positive electrode containing a positive electrode material and a nonaqueous electrolyte.